NWS FORM E-5 (11-88) (PRES. by NWS Instruction 10-924) U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE	HYDROLOGIC SERVICE AREA (HSA) **WFO Jackson, Mississippi**
MONTHLY REPORT OF HYDROLOGIC CONDITIONS	REPORT FOR: MONTH: **September** YEAR: **2010**
TO: Hydrometeorological Information Center, W/OH2 NOAA / National Weather Service 1325 East West Highway, Room 7230 Silver Spring, MD 20910-3283	SIGNATURE **Alan E. Gerard, Meteorologist In-Charge** DATE **10/7/2010**

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924)

X **An X inside this box indicates that no river flooding occurred within this hydrologic service area.**

Synopsis...

The month of September was characterized by one word, "DRY". Rainfall was below normal across all of the area with the exception of a small area in North Sunflower, East Bolivar, and West Carroll Counties, where deep tropical moisture on the eastern side of the remnants of Tropical Storm Hermine produced heavy rainfall from late on the 7th into early on the 8th. This area was the only location across the Hydrologic Service Area (HSA) that had above normal rainfall for the month.

The month started under high pressure with hot and dry conditions. A cold front moved across the region on the 3rd and into the Gulf of Mexico on the 4th. A line of showers broke out along the Natchez Trace with amounts generally less than 0.75 inches; however, the remainder of the HSA did not receive any significant rainfall. Cooler and drier air moved into the area behind the front and remained in place through the 5th.

High pressure shifted to the east on the 6th allowing warm, moist air to return to the region. Remnants of Tropical Storm Hermine moved across Central Texas and into Oklahoma from the 7th into 8th. Tropical moisture on the eastern side of the remnants produced scattered showers and thunderstorms as far east as I-55. Rainfall ranged from 0.25 to 1.00 inch with some heavier rainfall from 1.00 to 3.00 inches occurring over North Sunflower, East Bolivar, and West Carroll Counties. A cold front pushed south as far as an Arkansas City to Meridian line by the morning of the 9th producing some showers and thunderstorms. Rainfall ranged from 0.25 to 1.50 inches over the northern counties of Mississippi. The front pushed back to the north as a warm front on the 10th allowing the warm, moist air mass entrenched over the HSA to remain in place through the 11th.

Another cold front crossed the region from late on the 11th into the 12th. Scattered showers and thunderstorms occurred north of I-20, bringing from 0.25 to 2.00 inches of rainfall to some locations. Only isolated showers were noted south of I-20. Slightly cooler nighttime temperatures and lower humidity were observed. High pressure built into the region and remained in place through the morning of the 17th.

A weak cold front pushed into the region during the afternoon of the 17th through the 18th, producing a few isolated showers over Central Mississippi and scattered showers and thunderstorms over South Mississippi. Rainfall amounts ranged from 0.25 to 0.75 inches with isolated amounts to 1.50 inches.

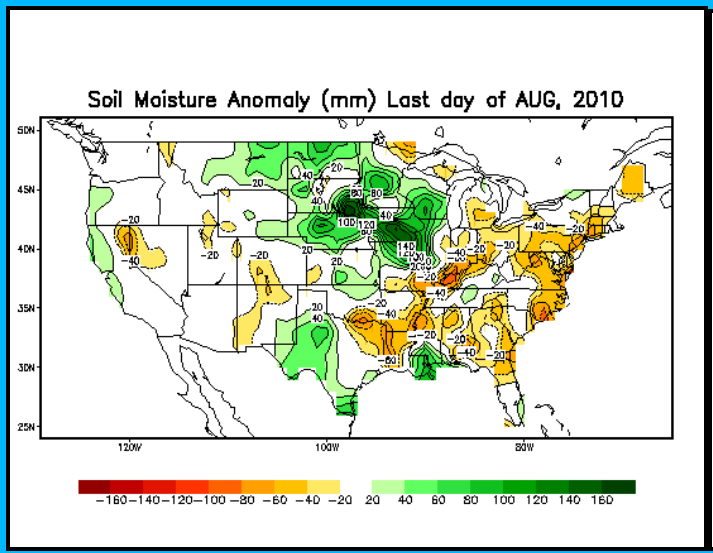
High pressure controlled the weather from the 20th to the 24th. Only widely scattered showers occurred during this period, generally over South and East Mississippi. Precipitation amounts were around .75 inches or less. Another cold front slowly moved across the HSA from the 25th into the 26th. Rainfall was scattered across the region and what did fall was too light to bring much relief from the dry conditions. Franklin Parish Louisiana received a little relief with rainfall totals from 1.00 to 2.50 inches.

High pressure moved into the region on the 27th bringing much cooler and drier air to the HSA through the end of the month.

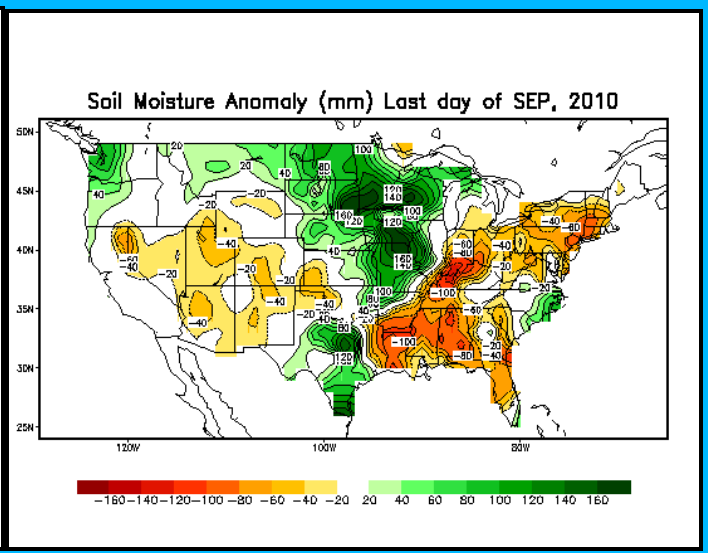
River and Soil Conditions...

The driest locations in the HSA during the month were across much of Central and South Mississippi, and southern portions of Northeast Louisiana, where rainfall was less than 25 percent of normal. North Mississippi, northern portions of Northeast Louisiana, and Southeast Arkansas had rainfall from 25 to 75 percent of normal, while portions of the Yazoo Delta Region had 50 to 140 percent of normal for the month.

Dry September conditions caused soil moisture to drop sharply across the entire HSA. Soil deficits of 3.00 to 4.00 inches were common across Northeast Louisiana, Southeast Arkansas, and extreme western portions of Mississippi. Soil moisture deficiencies over North and Central Mississippi were around 3.00 inches while deficits in South Mississippi ranged from 2.00 to 3.00 inches.



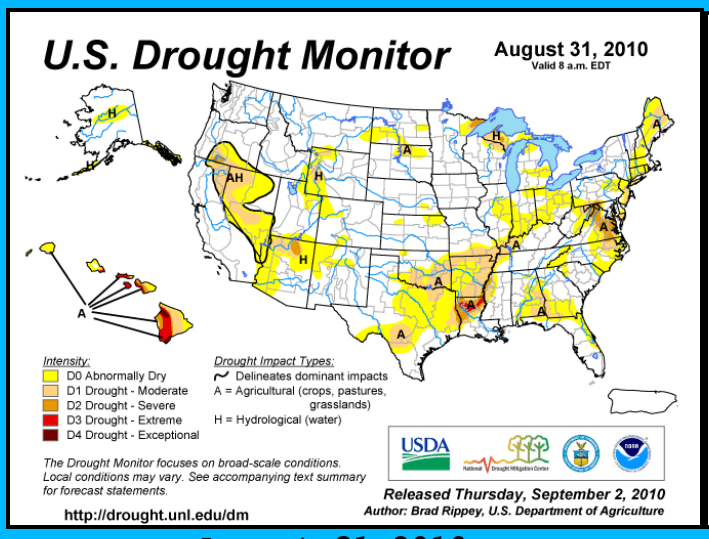
Last day of August, 2010



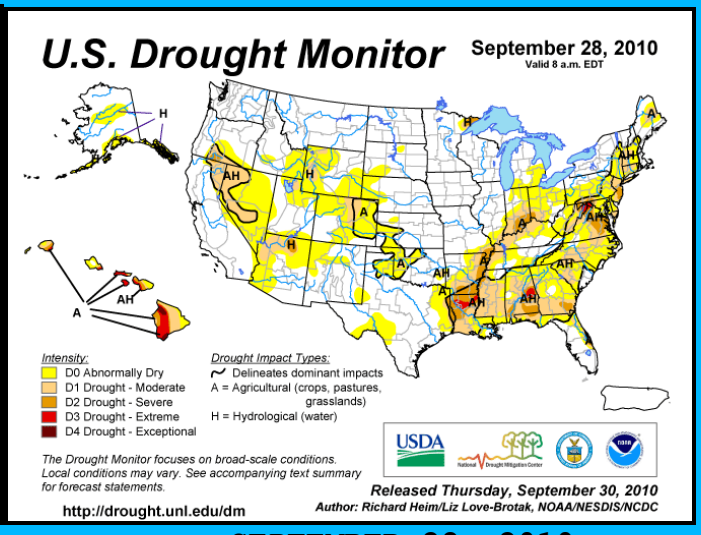
Last day of September, 2010

Soil Moisture anomaly (departure from normal): (25.4mm = 1 inch)

A comparison of the August 31st U.S. Drought Monitor to the September 28th U.S. Drought Monitor showed drought conditions worsening across the HSA. Extreme Drought (D3) remained over northern portions of Northeast Louisiana While Severe Drought (D2) increased to cover Southeast Arkansas, Moderate Drought (D1) enveloped much of Mississippi.

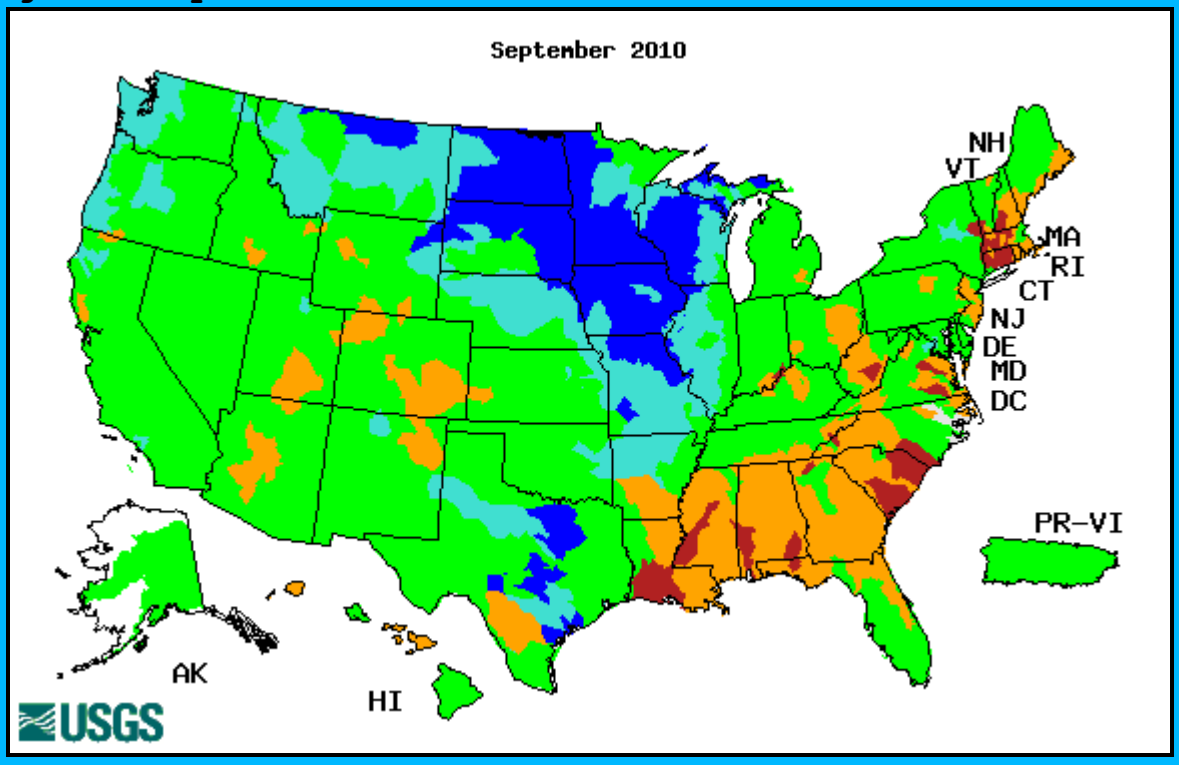


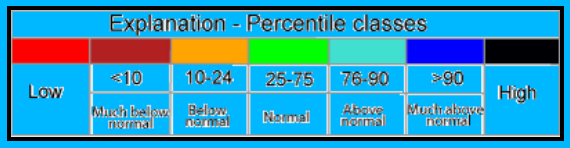
August 31,2010



SEPTEMBER 28, 2010

The United States Geological Survey's (USGS) September 2010 river streamflow records were compared with all historical September streamflow records. River levels continued to fall during the month of September. The Big Black and the Homochitto River Systems were much below normal while the remaining river systems were below normal.





Most rivers continued to recede with the dry conditions. Some minor rises were noted around the 8th of the month along the Big Sunflower and Quiver Rivers.

The Mississippi River continued to recede during the month with stages continuing to remain above seasonal norms. A minor rise occurred along the river during the last several days of the month.

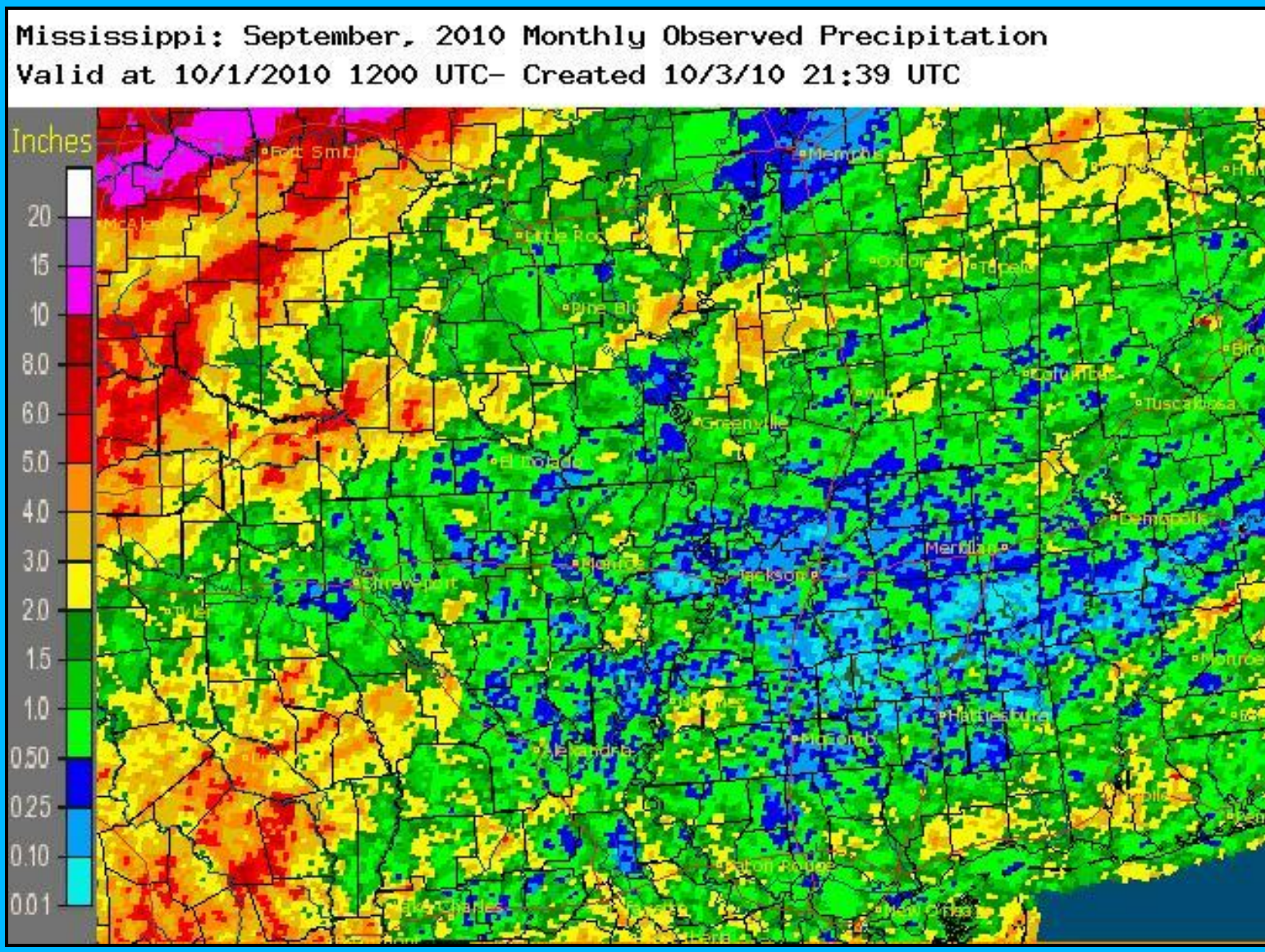
Based on current soil moisture conditions, current streamflow conditions, and an expected below normal rainfall pattern across the HSA over the next 60 to 90 days:

Pearl River System:	**Below Normal.**
Yazoo River System:	**Below Normal.**
Big Black River System:	**Below Normal.**
Homochitto River System:	**Below Normal.**
Pascagoula River System:	**Below Normal.**
Northeast LA and Southeast AR:	**Below Normal.**
Tombigbee River System:	**Below Normal.**
Mississippi River:	**Normal.**

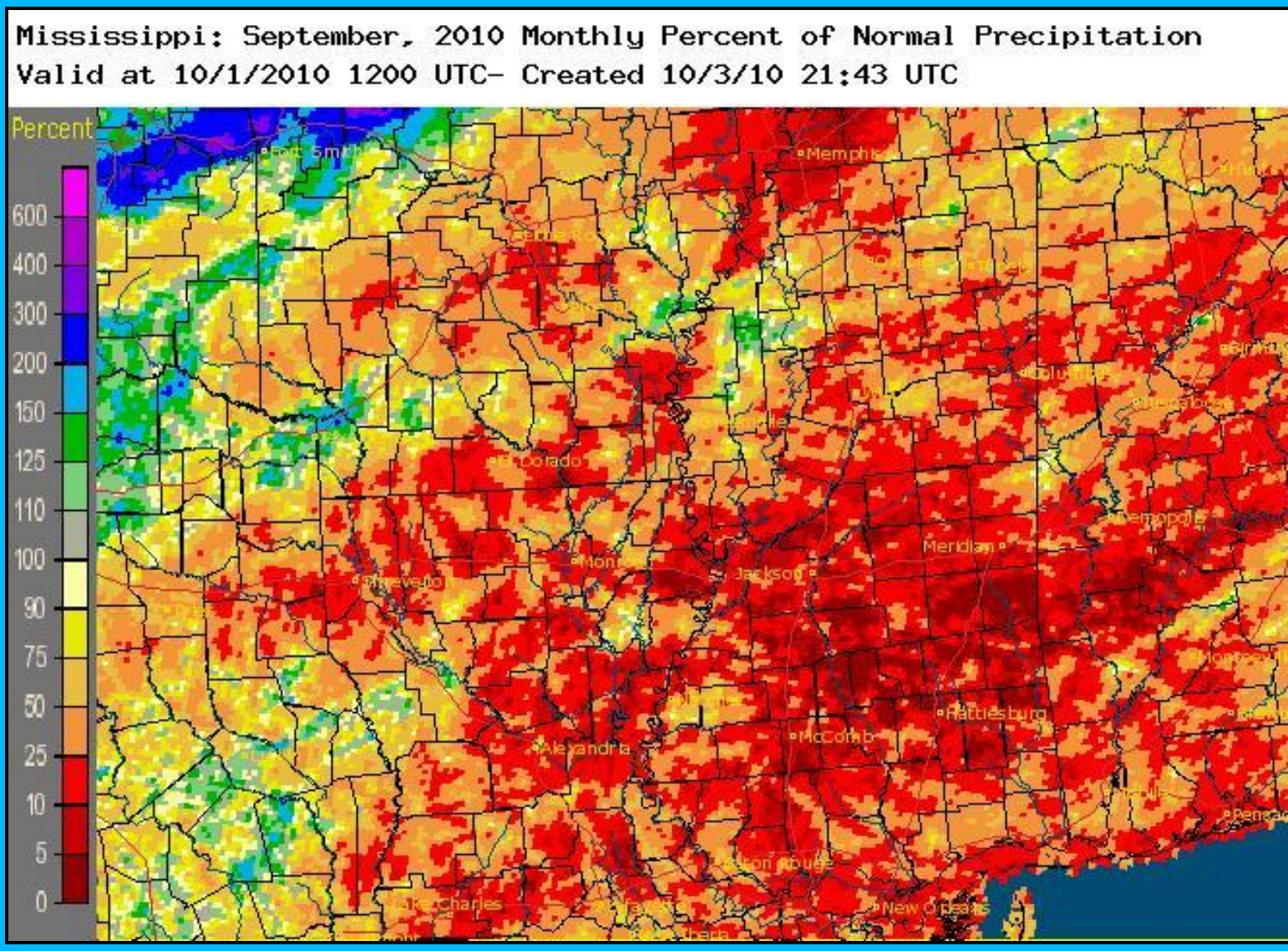
Rainfall for the month of September

The largest rainfall amounts in the HSA from NWS Cooperative Observer reports during the period from 7 am on August 31st until 7 am on September 30th were: 2.88 inches at Cleveland, MS; 2.41 inches at Leland, MS; 2.36 inches at Starkville, MS; 2.32 inches at Cleveland 3N, MS; and 2.13 inches at Stoneville, MS.

The lowest rainfall totals in the HSA were 0.00 inches at Prentiss, Oakley Agricultural Station, Brookhaven, MS, and Pat Harrison Waterway's Archusa Water Park all which are in MS; Trace at Collins and Paulding, MS; 0.01 inches at Laurel, MS; 0.02 inches at Sumrall, MS; 0.05 inches at Bay Springs; 0.06 inches at Monticello and Pat Harrison Waterway's Turkey Creek Water Park, MS; and 0.09 inches at Forest and Columbia, MS.



September 2010 Rainfall Estimate



September 2010 Percent of Normal Rainfall Estimates

Note: Observer rainfall and MPE may differ due to time differences.

September rainfall for Selected Cities...

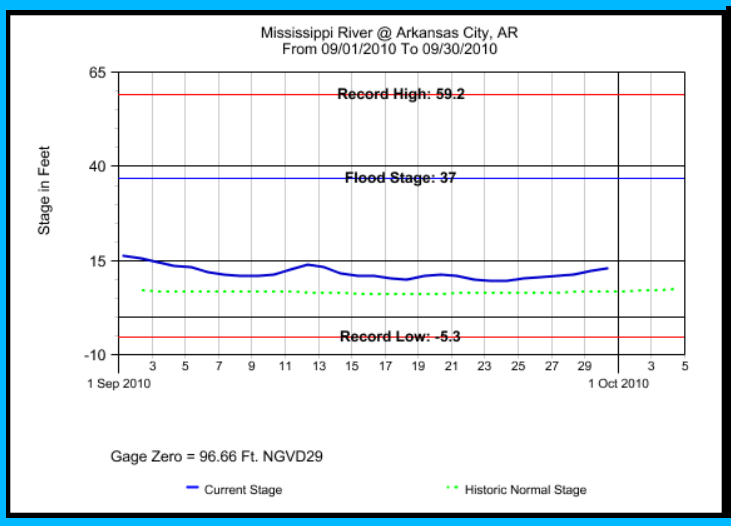
City (Airport)	September Rainfall	Departure from normal	2010 Rainfall	2010 Departure from Normal
Jackson, MS	0.04	-3.19	35.28	-6.87
Meridian, MS	0.24	-3.40	33.51	-11.60
Greenwood, MS	1.42	-1.83	27.27	-13.36
Greenville, MS	0.97	-1.77	20.12	-19.84
Hattiesburg, MS	0.25E	-4.01E	*36.05E	*-12.31E
Vicksburg, MS	0.28	-2.88	26.04	-17.56

* Hattiesburg HBG had missing data during the month of September.

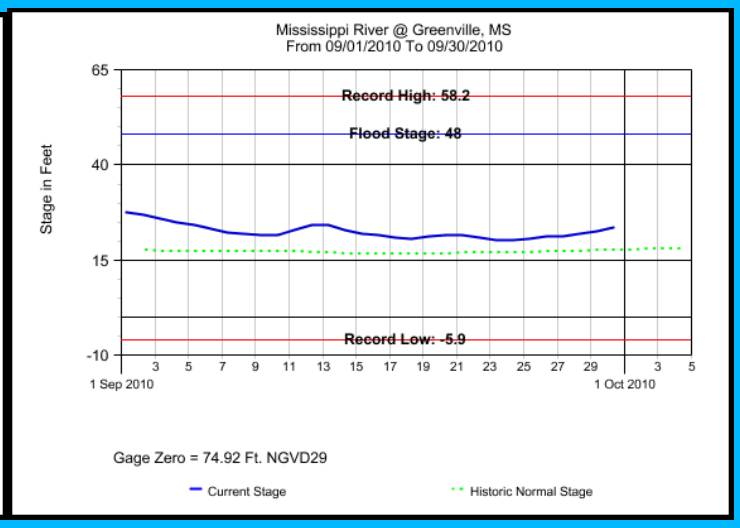
Mississippi River...

Mississippi River Plots for September, 2010

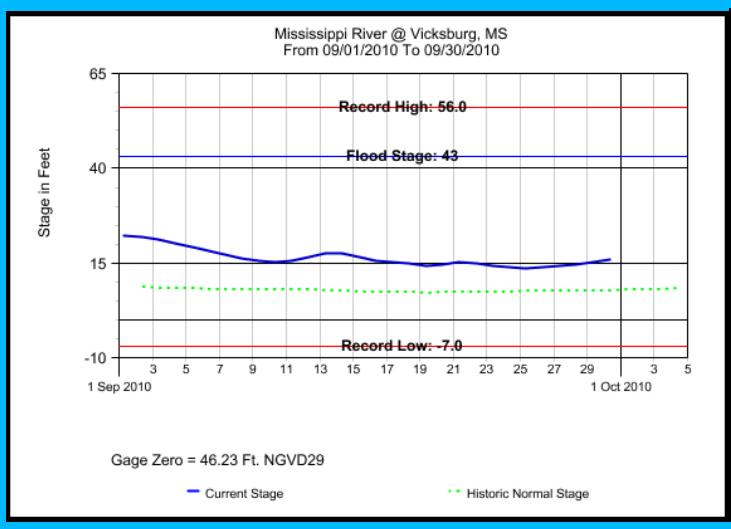
Plots Courtesy of the United States Army Corps of Engineers



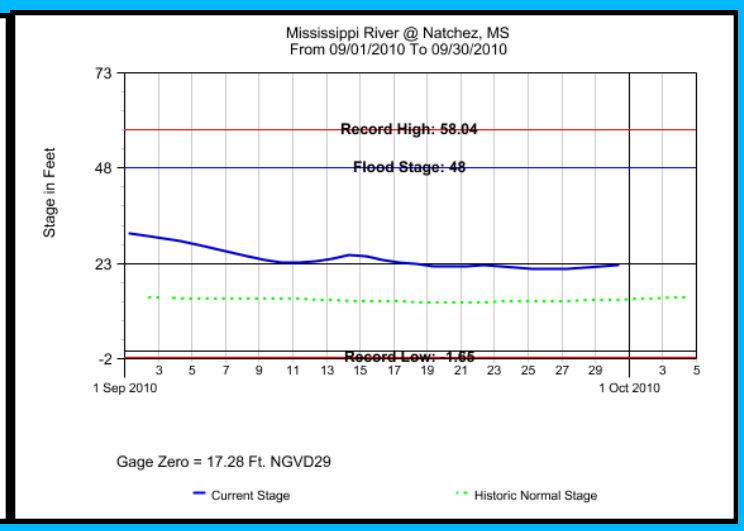
Arkansas City, AR



Greenville, MS



Vicksburg, MS



Natchez, MS

Preliminary high and low stages for the month:

Location	FS	High Stage(ft)	Date	Low Stage(ft)	Date
Arkansas City, AR	37	16.43	09/01/10	9.23	09/23/10
Greenville, MS	48	27.75	09/01/10	20.04	09/24/10
Vicksburg, MS	43	22.56	09/01/10	13.67	09/25/10
Natchez, MS	48	30.91	09/01/10	21.44	09/25/10

Total Flood Warning products issued: 0
Total Flood Statement products issued: 0
Total Flood Advisories MS River : 0
Daily Rainfall Products (RRA'S) issued: 30
Daily River Forecast Products (RVS'S) issued: 30
Daily River Stage products (RVA'S) issued: 30

Marty V. Pope

Service Hydrologist

&

Latrice Maxie

Assistant Hydrologist/Observing Program Leader (OPL)

Note: Provisional stage and precipitation data were furnished with the cooperation of the Mississippi, Louisiana, and Arkansas National Weather Service Cooperative Observer Programs, United States Geological Survey (USGS), United States Army Corps of Engineers (USACE), Pearl River Valley Water Supply District (PRVWSD), Pat Harrison Waterway District, Pearl River Basin Development District, and the Mississippi Department of Environmental Quality.

cc: USGS Little Rock District
USGS Ruston District
USACE Mobile District
USACE Vicksburg District
USACE Mississippi Valley Division
USGS Mississippi District
SRH Climate, Weather and Water Division
Lower Mississippi River Forecast Center
Pearl River Valley Water Supply District
Hydrologic Information Center
Southern Region Climate Center
Pat Harrison Waterway District
Pearl River Basin Development District